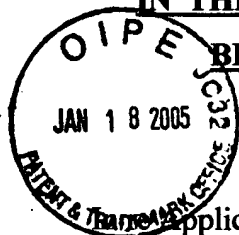


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND

INTERFERENCES



Application of

Job Cornelis Oostveen et al.

RECORD CARRIER
PLAYBACK APPARATUS AND
INFORMATION SYSTEM
COMPRISING A RECORD
CARRIER AND PLYBACK
APPARATUS

Serial No. 09/897,331

Filed: July 2, 2001

Group Art Unit: 2655

Examiner: Jorge L. C. Ortiz

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AMENDED APPEAL BRIEF. 37 C.F.R. 1.192

Sir:

This paper contains an Amended Appeal Brief responsive to the Notice of
Non-compliance mailed December 16, 2004.

09/897.331

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Introduction

This Application is before the Honorable Board of Patent Appeals and Interferences, from a final decision of the Examiner as indicated in the Advisory Action dated June 3, 2004.

Real party in interest

The real party of interest is the Assignee who is U. S. Philips Corporation, a corporation existing under the laws of the State of Delaware (hereinafter Appellant).

Related appeals and interferences

There are no related appeals or interferences to the present application that are known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of the Claims

Claims 1-16 are the currently pending claims drawn to a record carrier and playback system for reading information marks on the record carrier. Claims 1-16 are set forth in the attached Appendix I, as the appealed claims.

Status of the Amendments After Final

A response was filed subsequent to the final rejection to overcome the Examiner's rejection of claims 1-16 under 35 U.S.C. §102 and 35 U.S.C. §103. The Examiner in an advisory action (paper no. 12) indicated that the rejections based on 35 U.S.C. §102 and 35 U.S.C. §103 stand.

Summary Description of the Invention

The present invention relates to a record carrier and an associated playback apparatus that can read from the record carrier information marks within a track on the record carrier in the form of first variations indicative of the presence or absence of information marks. The record carrier and the associated playback apparatus of the invention employ second variations on the record carrier caused by variations associated with the information marks, with the phase of the second variations being coupled to the phase of the first variations (see page 2, lines 7-12). The second variations on the record carrier exhibit a modulation pattern representing a code which the playback apparatus can detect making detection of the second variations more reliable (see page 3, lines 13-19). The invention enhances copy protection by preventing recording on commercially available record carriers that have a pregrooved substrate containing a wobble (see page 4, line 29 through page 5 line 1). The invention teaches that the second variations will have either a first or second phase with respect the first variations providing the advantage that the second variations can be sampled in frequency of twice that of the second variations themselves (see page 7, lines 3-14). Additionally, the first and second phases of the second variations are selected such that a zero crossing of second variations coincides with a start of frame advantageously allowing for resynchronization of the clock used for detecting the second variations.

The problems to be solved by the invention are described in detail in the specification on pages 1-9. In a few words, the invention provides for more reliable detection of second variations which in turn increases the overall reliability of the playback apparatus. By recording first variations in the phase relationship related to second variations, the invention makes it more difficult to copy material on a record in apparatus.

Issues on Appeal

The issues presented for appeal are:

(1) whether claims 4-6 and 14-16 are anticipated under 35 U.S.C. §102 by Maeda et al. (U.S. Patent No. 6,069,870); and

(2) whether claims 1-3, 7 and 8-13 are patentable under 35 U.S.C. §103 over Timmermans et al (U.S. Patent No. 5,930,210) in view of Maeda et al. (U.S. Patent No. 6,069,870).

Grouping of the Claims

The claims do not stand and fall together.

Arguments

I. The rejection under 35 U.S.C. §102

A. The rejection under 35 U.S.C. §102

Claims 4-6 and 14-16 stand rejected under 35 U.S.C. §102 as being unpatentable U.S. Patent No. 6,069,870 issued to Maeda et al. (hereinafter referred to as *Maeda et al.*). The Examiner's position is that *Maeda et al.* anticipate the subject matter defined by appealed Claims 4-16 and 14-16.

B. The reference

Maeda et al. (U.S. Patent No. 6,069,870) disclose an information recording medium having groove tracks that are separated by land tracks. The opposing borders between the groove tracks and the land tracks as taught by *Maeda et al.* define wobbling patterns that are shifted by a predetermined phase difference (see ABSTRACT). *Maeda et al.* teach using the wobbling pattern defined by opposing borders of the land and groove tracks for address information. *Maeda et al.* teach that the address information indicate the location of borders 14, 15 for the land and groove tracks on the optical disc 4 (see column 7, lines 32-42). The address information as defined by *Maeda et al.* is ascertained by forming the wobbling pattern such that a fixed number of periods of the wobbling waveforms coincide with a single bit of address information (see column 7, lines 32-42). The discussion related to Figure 3 of *Maeda et al.* on

column 7, line 32-column 8, line 35 illustrates the principal taught therein for using the wobbling waveforms for address information. As shown in Figure 3 of *Maeda et al.*, the inner border 14 and the outer border 15 are always 90 degrees out of phase and maintain an orthogonal relationship. The embodiment discussed on column 7, line 32-column 8, line 35 of *Maeda et al.* employs five periods of the wobbling waveforms to define a single bit of address information. Note that the term "bit" as used within column 7, line 32-column 8, line 35 of *Maeda et al.* refers to an address bit that is determined by multiple periods of the wobbling waveforms and not an information bit.

The appellants respectfully point out that within the discussion related to Figure 3 of *Maeda et al.* on column 7, line 32-column 8, line 8; the term "data" refers to data for address bits. For example, column 7, lines 32-36 states that the borders 14, 15 of tracks 270 are partitioned such that each subdivision denotes one bit and data "0" or data "1" are presented by the wobbling waveforms. On column 7, lines 43-45 *Maeda et al.* state that the wobbling waveform of data "0" is identical in oscillation period with the wobbling waveform of data "1". Further, the description related to Figure 3 of *Maeda et al.* on column 7, lines 59-64 discusses discontinuities that occur in the wobbling waveforms in the event that of the address bits change from a logical "0" to a logical "1" or vice versa. In the description related to Figure 3 of *Maeda et al.* on column 7, line 65- column 8, line 8, discusses "data" as address data derived from the wobbling waveforms. The description related to Figure 3 of *Maeda et al.* on column 7, line 32-column 8, line 8, discusses the phase relationship that exist between opposing walls of the wobbling waveform.

On column 8, lines 13-21, *Maeda et al.* state that it is possible to read different address information from opposing wobbling borders 14, 15 simultaneously with data from the information marks. Note that there is no disclosure, suggestion or any motivation provided whatsoever within *Maeda et al.* for relating the phase relationship of the wobbling of the opposing wobbling walls with the phase of the information that is recorded within the tracks.

In summary, while *Maeda et al.* provide advantages for identifying the current location of the light spot on the disc by varying the phase relationship between opposing walls of the wobbling waveforms to yield enhanced addressing capability, *Maeda et al.* provide no teaching or suggestion for varying the phase relationship of the wobbling pattern with respect to the phase relationship of the information that is recorded within the tracks on the record carrier.

C. The differences between the invention and the references

Maeda et al. do not disclose, suggest or otherwise motivate a person skilled in the art to couple the phase of the second variations formed by the wobbling waveform of opposing walls of the track to the phase of the first variations formed by data recorded within the tracks. "To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently." *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). The appellants respectfully point out that at column 6, lines 56-62, *Maeda et al.* disclose that information marks representative of data is formed along tracks 270 and address information is formed along track 270 by the borders of tracks 270. Furthermore, column 6, lines 56-62, of *Maeda et al.* disclose that the information marks 274 and the address information 13 can be recorded simultaneously. Note that there is no discussion within column 6, lines 56-62, of *Maeda et al.* for coupling the phase of the address information contained on track 270 formed by the wobbling waveforms of the borders of tracks 270 to the phase of the information marks 274 formed within the tracks 270.

Appealed claim 4, defines subject matter for first variations caused by existence and nonexistence of the information marks along the track, and second variations caused by variations associated with the information marks with the phase of the second variations being coupled to the phase of the first variations. The subject matter defined by appealed claim 4 is discussed beginning at page 5, line 32 of the specification to the present invention proceeding through page 6, line 24 as a predetermined number of second variation corresponding to a predetermined number of channels bits represented by the first variations. The examiner's position expressed in the Advisory Action (paper 12) is that *Maeda et al.* on column 8, lines 18-19 disclose that a predetermined number of wobbles correspond to a predetermined number of channel bits. The appellants respectfully point out that column 8, lines 18-19 of *Maeda et al.* disclose that it is possible to read address information discerned from the wobbling patterns simultaneously with the data represented by the information marks 274. There is no disclosure, or suggestion, within *Maeda et al.* for coupling the phase of the second variations represented by the wobbling waveforms formed by the borders of tracks 270 to the phase of the first variations represented by the information marks 274 that are formed within the tracks 270. Figure 27 of

Maeda et al. illustrates the equivalent of the first variations represented by the information marks 274 formed in land and groove tracks 270, 271, 272, 273. There is no phase relationship that can be discerned between the first variations represented by the information marks 274 and the wobbling waveforms formed by land and groove tracks 270, 271, 272, 273 within Figure 27 of *Maeda et al.*, or the discussion related thereto.

Appealed claim 5, defines subject matter for a record carrier as defined by appealed claim 4, further characterized in that the second variations have either a first or a second phase with respect to the first variations. The subject matter defined by appealed claim 5 is discussed on page 7, lines 3-14 of the specification to the present invention. The appellants respectfully point out that in Figure 3 of *Maeda et al.*, the five wobbling waveform periods correspond to a single address bit and that there is no disclosure or suggestion for coupling the phase of the wobbling waveforms to information bits recorded within the track. It should be noted that as illustrated in Figure 27 of *Maeda et al.*, the first variations represented by the information marks 274 do not correspond to a first or a second phase in the second variations defined by the wobbling waveforms of land and groove tracks 270, 271, 272, 273. In fact the placement of information marks 274 appears to be random with respect to the phase of wobbling waveforms of land and groove tracks 270, 271, 272, 273. There is no disclosure, or suggestion, within *Maeda et al.* for the second variations to have either a first or a second phase with respect to the first variations.

Appealed claim 6, defines subject matter for a record carrier as defined by appealed claim 5, further characterized in that first and the second phase differ with 180 degrees. As previously discussed, the placement of information marks 274 within Figure 27 of *Maeda et al.* do not correspond to a first or a second phase in the second variations and appear to be random with respect to the phase of the second variations. Figure 3 of *Maeda et al.* illustrates five wobbling waveform periods that correspond to a single address bit with no disclosure or suggestion being supplied for coupling the phase of the wobbling waveforms to information bits recorded within the track. The examiner's position expressed in the Advisory Action (paper 12) states that *Maeda et al.* on column 7, lines 42-46 disclose that the second variations have a first or second phase with respect to the first variations and that the first and second phase differ by 180°. The appellants respectfully point out that column 7, lines 42-46 of *Maeda et al.* disclose that phase of the wobbling waveforms formed by the opposing walls to the tracks are out of phase by 180°. There is no disclosure or suggestion within *Maeda et al.* for the second variations to have a first

or second phase that differ by 180 degrees with respect to the phase of the first variations represented.

Appealed claim 14 defines subject matter for a record carrier as defined by appealed claim 4, further characterized in that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations. Figure 3 of *Maeda et al.* illustrates five wobbling waveform periods that correspond to a single address bit. There is no disclosure or suggestion supplied by *Maeda et al.* at column 8, lines 33-35 for coupling the phase of the wobbling waveforms to information bits recorded within the track. Note that in the Final Office Action, the examiner has taken the position that column 7, line 22-column 8, line 35 of *Maeda et al.* disclose that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations. The appellants respectfully point out that column 7, line 22-column 8, line 35 of *Maeda et al.* do not disclose, suggest or mention in any way whatsoever that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations.

Appealed claim 15 defines subject matter for a record carrier as defined by appealed claim 4, further characterized in that the second variations have a first and a second phase such that a predetermined relationship between the first and the second phase coincides to a start of frame. The examiner's position as stated in the Advisory Action (paper 12) is that Figure 2 of *Maeda et al.* disclose that the first or second phase correspond to a start of frame. The appellant's respectfully, point out the Figure 2 of *Maeda et al.* do not disclose, suggest or mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame. The examiner's position as stated in the Final Office Action is that Figures 3 and 27 as well as the discussion related thereto on column 7, line 22- column 8, line 35 of *Maeda et al.* disclose the subject matter defined by appealed claim 15 for the second variations having a first and a second phase such that a predetermined relationship between the first and the second phase coincides to a start of frame. The appellant's respectfully, point out that neither Figures 3 and 27 nor column 7, line 22- column 8, line 35 of *Maeda et al.* disclose, suggest or mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

Appealed claim 16 defines subject matter for a record carrier as defined by appealed claim 15, further characterized in that the predetermined relationship between the first and the second phase coincides is a zero crossing. The subject matter defined by appealed claim 16 is discussed in the specification to the present invention on page 7, lines 15-33, wherein it is stated that a zero crossing coincides to a start of an EFM frame. The examiner's position as stated in the Final Office Action is that *Maeda et al.* in Figures 3 and 27 as well as on column 7, line 22- column 8, line 35 disclose the subject matter defined by appealed claim 16. The appellants respectfully point out that there is no disclosure, suggestion or even a mention in any way in Figures 3 or 27, nor column 7, line 22- column 8, line 35 of *Maeda et al.* for the first and the second phase of the second variations having a predetermined relationship such that coincides is a zero crossing.

II. The rejection under 35 U.S.C. §103

A. The rejection under 35 U.S.C. S 103

Claims 1-3, 7 and 8-13 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,930,210 issued to Timmermans et al. (hereinafter referred to as *Timmermans et al.*) in view of previously discussed *Maeda et al.* (U.S. Patent No. 6,069,870). The Examiner's position is that it would have been within the scope of one of ordinary skill in the art to modify the teaching of *Timmermans et al.* to couple the phase of the second variations in the wobbling waveforms to the phase of first variations representative of the information recorded within the tracks in view of the teaching of *Maeda et al.*

B. The references

Timmermans et al. (U.S. Patent No. 5,930,210) disclose a playback system including a record carrier having first variations indicative of information recorded on the record carrier and second variations that differ from the first variations (see ABSTRACT). The information represented by the first variations can only be recovered if the second variations are detected (see column 3, line 57 - column, line 12). As noted by the examiner in the Final Office Action,

Timmermans et al. do not teach that the phase of the second variations is coupled to the phase of the first variations. Accordingly, while *Timmermans et al.* teach second variations that are transverse to the track direction (the track wobble), there is no coupling disclosed or suggested therein between the phase of the first variations with that of the phase of the second variations.

Maeda et al. (U.S. Patent No. 6,069,870), as previously discussed with respect to the rejection under 35 U.S.C. § 102, disclose an information recording medium having grooved tracks that are separated by land tracks. The opposing borders between the groove tracks and the land tracks as taught by *Maeda et al.* define wobbling patterns that are shifted by a predetermined phase difference (see ABSTRACT). Column 6, lines 56-62, *Maeda et al.* disclose that information marks representative of data are formed along tracks 270 and that address information is formed along track 270 by the borders of tracks 270. Further, column 6, lines 56-62, *Maeda et al.* disclose that the information marks 274 and the address information 13 can be recorded simultaneously. Note that there is no disclosure or suggestion within column 6, lines 56-62, of *Maeda et al.* for coupling the phase of the address information that is formed along track 270 by the wobbling waveforms formed by the borders of tracks 270 to the phase of the information marks 274 formed within the tracks 270.

In summary, while *Maeda et al.* provide for identifying the current location of the light spot on the disc by varying the phase relationship between opposing walls of the wobbling waveforms to yield enhanced addressing capability, *Maeda et al.* provide no disclosure or suggestion for varying the phase relationship of the wobbling pattern with respect to the phase relationship for information that is recorded within the tracks on the record carrier.

C. The differences between the invention and the references

Timmermans et al. disclose a playback system including a record carrier having first variations indicative of information recorded on the record carrier and second variations that differ from the first variations. As noted by the examiner in the Final Office Action (page 6), *Timmermans et al.* do not teach that the phase of the second variations is coupled to the phase of the first variations. Accordingly, while *Timmermans et al.* teach that second variations that are transverse to the track direction, or track wobble, there is no disclosure or suggestion for

coupling between the phase of the first variation with that of the phase of the second variations as defined by the appealed claims.

As previously discussed, *Maeda et al.* teach using the wobbling pattern defined by opposing borders of the land and groove tracks for address information. *Maeda et al.* teach that the address information indicates where the borders 14, 15 for the land and grooved tracks are located on the optical disc 4 (see column 7, lines 32-42). The address information as defined by *Maeda et al.* is ascertained by forming the wobbling pattern such that a fixed number of periods of the wobbling waveforms coincide with a single bit of address information (see column 7, lines 32-42). The discussion related to Figure 3 of *Maeda et al.* on column 7, line 32-column 8, line 35 illustrates the principal taught therein for using the wobbling waveforms for address information. As shown in Figure 3 of *Maeda et al.*, the inner border 14 and the outer border 15 are always 90 degrees out of phase and maintain an orthogonal relationship. The embodiment discussed on column 7, line 32-column 8, line 35 of *Maeda et al.* employs five periods of the wobbling waveforms to define a single bit of address information. Note that the term "bit" as used within column 7, line 32-column 8, line 35 of *Maeda et al.* refers to an address bit that is determined by multiple periods of the wobbling waveforms and not an information bit.

On column 8, lines 13-21 *Maeda et al.* state that it is possible to read different address information from opposing wobbling borders 14, 15 simultaneously with data from the information marks. Note that there is no discussion, teaching or any motivation provided whatsoever within *Maeda et al.* for relating the phase relationship of either wobbling of the opposing wobbling walls with the phase of the information that is recorded within the tracks.

In summary, *Maeda et al.* provide advantages for identifying the current location of the light spot on the disc by varying the phase relationship between opposing walls of the wobbling waveforms to yield enhanced addressing capability. *Maeda et al.* do not disclose or suggest varying the phase relationship of the wobbling pattern with respect to the phase relationship for information that is recorded within the tracks on the record carrier as defined by the appealed claims.

As stated by the court in *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990), although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). *Timmermans et al.* do not disclose or suggest coupling the

phase of the second variations to the phase of the first variations. There is no motivation or suggestion provided within *Maeda et al.* that would lead a person skilled in the art to modify the teachings of *Timmermans et al.* to arrive at the invention as defined by the appealed claims, therefore, the rejection of the appealed claims should be overturned.

Appealed claim 1 defines subject matter for an information system having a record carrier having information marks along a track and exhibiting first variations caused by existence and nonexistence of the information marks along the track, and second variations caused by variations associated with the information marks; wherein the phase of the second variations is coupled to the phase of the first variations. The examiner's position expressed in the Final Office Action is that *Maeda et al.* on column 6, lines 56-62, disclose that the phase of the second variations is coupled to the phase of the first variations. The appellants, respectfully, assert that column 6, lines 56-62 of *Maeda et al.* disclose that information marks are formed along tracks 270 and that address information is formed along track 270 by the borders of tracks 270. There is no disclosure, or suggestion, on column 6, lines 56-62, or anywhere, within *Maeda et al.* that would lead a person skilled in the art to couple the phase of the address information formed along track 270 by wobbling waveforms of the borders of tracks 270 to the phase of the information marks 274 that are formed within the tracks 270. Simply put, there is not a single mention within *Maeda et al.* for coupling the phase of the second variations represented by the wobbling waveforms to the phase of the first variations represented by the information marks. Moreover, there is no suggestion or motivation to modify the teachings of either *Maeda et al.* or *Timmermans et al.* to create an information system with a record carrier having the phase of the second variations being coupled to the phase of the first variations as defined by appealed claim 1.

Appealed claim 2 defines subject matter for an information system having a record carrier as defined by appealed claim 1 further characterized in that the second variations exhibit a modulation pattern representing a code, a detection unit includes a demodulation unit for recovering the code on the basis of at least one signal, and an activation unit for activating the enabling unit when the code is recovered. The examiner's position is that *Timmermans et al.* teach the subject matter defined by appeal claim 2. The appellants would draw attention to page 7, lines 3-14 of the specification to the present invention wherein the binary code that the second variations as defined by appealed claim 2 are discussed. The

modulation pattern exhibited by the second variations as defined by appealed claim 2 are inherently different from those of *Timmermans et al.* because appealed claim 2 defines subject matter wherein the second variation have a phase coupled to the phase of the first variations. There is no disclosure or suggestion within either *Maeda et al.* or *Timmermans et al.* to create an information system with a record carrier having the phase of the second variations, wherein the second variations exhibit a modulation pattern representing a code being coupled to the phase of the first variations as defined by appealed claim 1.

Appealed claim 3 defines subject matter for the system as defined by appealed claim 2, further characterized in that the information signal is recoverable by means of a predetermined type of data processing, the code indicating the predetermined type of data processing to be used for recovering the information signal, and the playback apparatus further includes a unit for setting said recovery unit in a mode in which the predetermined type of data processing is performed when the information signal is recovered. The appellants respectfully submit that the definition of the phase of the second variations being coupled to the phase of the first variations alters the inherent meaning for the information signal being recoverable by means of a predetermined type of data processing, in a manner necessary to accommodate the definition of the phase of the second variations being coupled to the phase of the first variations. Therefore, *Timmermans et al.* do not disclose or suggest the predetermined type of data processing, the code indicating the predetermined type of data processing to be used for recovering the information signal as defined by appealed claim 3.

Appealed claim 7 defines subject matter of a playback apparatus for scanning a record carrier with a transducer unit being adapted to detect first and second variations, the first variations representing an information signal recorded on the record carrier, and the second variations caused by variations associated with the information marks; wherein the phase of the second variations being coupled to the phase of the first variations. The examiner's position is that column 6, lines 56-62 of *Maeda et al.* teach the subject matter defined by appealed claim 7. The appellants respectfully point out that column 6, lines 56-62 of *Maeda et al.* disclose information marks representative of data that is formed along tracks 270 and that address information is formed along track 270 by the borders of tracks 270. *Maeda et al.* further disclose at column 6, lines 56-62, that the information marks 274 and the address information 13 can be recorded simultaneously. Note that there is no discussion within column 6, lines 56-62 of *Maeda*

et al. for coupling the phase of the address information that is formed along track 270 by the wobbling waveforms formed by the borders of tracks 270 to the phase of the information marks 274 formed within the tracks 270. The opposing borders between the groove tracks and the land tracks as taught by *Maeda et al.* define wobbling patterns that are shifted by a predetermined phase difference (see ABSTRACT). The subject matter defined by appealed claim 7 is discussed in the specification to the present invention on pages 5-9. There is no disclosure or suggestion within column 6, lines 56-62, *Maeda et al.* that would lead a person skilled in the art to couple the phase of the address information that is formed along track 270 by wobbling waveforms of the borders of tracks 270 to the phase of the information marks 274 that are formed within the tracks 270. There is not a single mention within *Maeda et al.* that discloses or suggests to a person skilled in the art any usefulness in coupling the phase of the second variations (represented by the wobbling waveforms) to the phase of the first variations (represented by the information marks). Moreover, there is no motivation provided by the combination of *Maeda et al.* with *Timmermans et al.* that discloses or suggests modifying the teachings of these references to create a playback apparatus with a record carrier having the phase of the second variations that is coupled to the phase of the first variations as defined by appealed claim 7.

Appealed claim 8 defines the subject matter according to appealed claim 7, further characterized in that the predetermined variation pattern allows sampling of the second variations at twice the frequency of the second variations. Figures 3 and 27 within *Maeda et al.* illustrate five wobbling waveform periods that correspond to a single address bit. There is no disclosure, suggestion, teaching or motivation supplied within *Maeda et al.* for sampling of the second variations at twice the frequency of the second variations. Furthermore, there is no disclosure, or suggestion, for coupling the phase of the wobbling waveforms to information bits recorded within the tracks as by *Maeda et al.* at column 8, lines 33-35. Note that in the Final Office Action, the examiner has taken the position that column 7, line 22-column 8, line 35 of *Maeda et al.* disclose that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations. The appellants respectfully point out that column 7, line 22-column 8, line 35 of *Maeda et al.* do not disclose, suggest or mention in any way whatsoever that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations. *Maeda et al.* at column 7, line 22-column 8, line 35 discuss using the wobbling

waveform to form address bits that can assist in providing the track location to the tracking servo in the event that the tracking servo should fail at some point to properly track (see col. 8, lines 21-29). There is no disclosure or suggestion for a predetermined variation pattern that allows sampling of the second variations at twice the frequency of the second variations within *Maeda et al.* or *Timmermans et al.*, either alone or in combination.

Appealed claim 9 defines the subject matter of appealed claim 7, further characterized in that the second variations have a first and a second phase such that a predetermined relationship between the first and the second phase coincides to a start of frame. The examiner's position is that Figures 3 and 27 as well as column 7, line 22 – column 8, line 35 of *Maeda et al.* disclose that the first or second phase correspond to a start of frame. The appellant's respectfully, point out the Figures 3 and 27 of *Maeda et al.* do not disclose, suggest or mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame. Figure 3 within *Maeda et al.* illustrate the wobbling patterns that are used to form address bits. *Maeda et al.* at column 7, line 22-column 8, line 35 discuss Figure 27 and using the wobbling waveform to form address bits that can assist in providing the track location to the tracking servo in the event that the tracking servo should fail at some point to properly track (see col. 8, lines 21-29). The appellants respectfully, point out that neither Figures 3 and 27 nor column 7, line 22- column 8, line 35 of *Maeda et al.* disclose, suggest or mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

Appealed claim 10 defines subject matter for a playback apparatus according to appealed claim 9, further characterized in that the predetermined relationship is a zero crossing. The subject matter defined by appealed claim 10 is discussed in the specification to the present invention on page 7, lines 15-33, wherein it is stated that a zero crossing coincides to a start of an EFM frame. The examiner's position states in the Final Office Action is that Figure 3 and 27 as well as column 7, line 22- column 8, line 35 of *Maeda et al.* disclose the subject matter defined by appealed claim 10. Figure 3 in *Maeda et al.* illustrates the wobbling patterns that are used to form address bits. *Maeda et al.* at column 7, line 22-column 8, line 35 discuss Figure 27 and using the wobbling waveform to form address bits that can assist in providing the track location to the tracking servo in the event that the tracking servo should fail at some point to properly

track (see col. 8, lines 21-29). The appellants respectfully point out that there is no disclosure, suggestion or even a mention in any way in Figures 3 or 27, nor column 7, line 22- column 8, line 35 of *Maeda et al.* for the first and the second phase of the second variations having a predetermined relationship such that coincides is a zero crossing. There is no disclosure or suggestion for the first and the second phase of the second variations having a predetermined relationship such that coincides is a zero crossing within *Maeda et al.* or *Timmermans et al.*, either alone or in combination.

Appealed claim 11 defines the subject matter defined by appealed claim 1, further characterized in that a predetermined variation pattern within the second variation allows sampling of the second variations at twice the frequency of said second variations. The examiner's position expressed in the Final Office Action is that column 7, line 22-column 8, line 35 of *Maeda et al.* disclose that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations. The appellants respectfully point out that Figures 3, 27, and column 7, line 22-column 8, line 35 of *Maeda et al.* illustrate five wobbling waveform periods that correspond to a single address bit with no teaching, suggestion or motivation for a person of ordinary skill within the art to couple the phase of the wobbling waveforms to information bits recorded within the track. Note that column 7, line 22-column 8, line 35 of *Maeda et al.* do not disclose, suggest or mention in any way whatsoever that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations. Moreover, there is no disclosure or suggestion that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations within *Maeda et al.* or *Timmermans et al.*, either alone or in combination.

Appealed claim 12 defines the subject matter for the system of appealed claim 1, further characterized in that the second variations have a first and a second phase such that a predetermined relationship between the first and said second phase coincides to a start of frame. The examiner's position is that Figures 3 and 27 as well as column 7, line 22 – column 8, line 35 of *Maeda et al.* disclose that the first or second phase correspond to a start of frame. Figure 3 of *Maeda et al.* illustrates the wobbling patterns that are used to form address bits. As previously discussed, *Maeda et al.* at column 7, line 22-column 8, line 35 discuss Figure 27 and using the wobbling waveform to form address bits that can assist in providing the track location to the

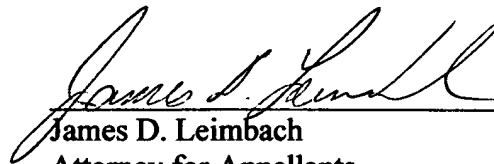
tracking servo in the event that the tracking servo should fail at some point to properly track (see col. 8, lines 21-29). The appellants respectfully, point out the Figures 3, 27 and column 7, line 22-column 8, line 35 of *Maeda et al.* do not disclose, suggest or mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame. Moreover, *Maeda et al.* or *Timmermans et al.*, either alone or in combination do not disclose, suggest or mention in any way whatsoever that the second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

Appealed claim 13 defines subject matter for a system as defines by appealed claim 12, further characterized in that predetermined relationship is a zero crossing. The subject matter defined by appealed claim 13 is discussed in the specification to the present invention on page 7, lines 15-33, wherein it is stated that a zero crossing coincides to a start of an EFM frame. The examiner's position stated within the Final Office Action is that Figure 3 and 27 as well as column 7, line 22- column 8, line 35 of *Maeda et al.* discloses the subject matter defined by appealed claim 13. As previously discussed, *Maeda et al.* at column 7, line 22-column 8, line 35 discuss Figure 27 and using the wobbling waveform to form address bits that can assist in providing the track location to the tracking servo in the event that the tracking servo should fail at some point to properly track (see col. 8, lines 21-29). The appellants respectfully point out that there is no disclosure, suggestion or even a mention in any way in Figures 3 or 27, nor column 7, line 22- column 8, line 35 of *Maeda et al.* for the first and the second phase of the second variations having a predetermined relationship such that coincides is a zero crossing. Moreover, *Maeda et al.* or *Timmermans et al.*, either alone or in combination do not disclose, suggest or mention in any way whatsoever for the first and the second phase of the second variations having a predetermined relationship such that coincides is a zero crossing.

D. Conclusion

In summary, the examiner's rejections of the claims are believed to be in error for the reasons explained above. The rejections of each of claims 1-16 should be reversed.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James D. Leimbach", is written over a horizontal line.

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APPENDIX 1 Claims on Appeal

1. An information system, comprising: a record carrier (1) having information marks along a track (11) thereof and exhibiting:

first variations caused by existence and nonexistence of the information marks along the track, said first variations representing an information signal recorded on said record carrier, and second variations (W) caused by variations associated with the information marks; the phase of the second variations being coupled to the phase of the first variations,

a playback apparatus (20) including:

a transducer unit (20A, 20e, 20c) for scanning said record carrier (1), said transducer unit being adapted to detect said first variations and said second variations,

a first recovery unit (22) coupled to the transducer unit (20A, 20s, 20c) for recovering a clock signal (CL) from the first variations,

a second recovery unit (23) coupled to the transducer unit (20A, 20B, 20C) for recovering an information signal (S_{out}) from the first variations,

a detection unit (24) for detecting whether said second variations exhibit a predetermined variation pattern on the basis of at least one signal (S_A), which is at least indicative of said second variations, originating from said transducer unit, the detection unit (24) using the said clock signal (CL) for detecting, and

an enabling unit (5) for enabling said second recovery unit (23) to recover the 20 information signal (S_{out}) when said detection unit detects (24) said predetermined variation pattern.

2. The system as claimed in claim 1, wherein said second variations exhibit a modulation pattern representing a code; and said detection unit includes a demodulation unit for recovering said code on the basis of said at least one signal, and an activation unit for activating said enabling unit when said code is recovered.

3. The system as claimed in claim 2, wherein the information signal recorded on said record carrier is of a type which is recoverable by means of a predetermined type of data

processing, said code indicating the predetermined type of data processing to be used for recovering the information signal, and said playback apparatus further includes a unit for setting said recovery unit in a mode in which the predetermined type of data processing is performed when the information signal is recovered.

4. A record carrier (1) having information marks along a track (11) thereof and exhibiting:

first variations caused by existence and nonexistence of the information marks along the track, said first variations representing an information signal recorded on said record carrier, and second variations (W) caused by variations associated with the information marks; the phase of the second variations being coupled to the phase of the first variations.

5. A record carrier according to claim 4, characterized in that the second variations have either a first or a second phase with respect to the first variations.

6. A record carrier according to claim 5, characterized in that first and the second phase differ with 180 degrees.

7. A playback apparatus (20) including:

a transducer unit (20_A, 20_B, 20_C) for scanning a record carrier (1), said transducer unit being adapted to detect at least first and second variations, said first variations representing an information signal recorded on said record carrier, and second variations (W) caused by variations associated with the information marks; the phase of the second variations being coupled to the phase of the first variations,

a first recovery unit (22) coupled to the transducer unit (20_A, 20_s, 20_c) for recovering a clock signal (CL) from the first variations,

a second recovery unit (23) coupled to the transducer unit (20_A, 20_s, 20_c) for recovering an information signal (S_{out}) from the first variations,

a detection unit (24) for detecting whether said second variations exhibit a predetermined variation pattern on the basis of at least one signal (S_A), which is at least indicative of said second

variations, originating from said transducer unit, the detection unit (24) using the said clock signal (CL) for detecting and

an enabling unit (5) for enabling said second recovery unit (23) to recover the information signal (Sout) when said detection unit detects (24) said predetermined variation pattern.

8. A playback apparatus according to claim 7, characterized in that said predetermined variation pattern allows sampling of said second variations at twice the frequency of said second variations.

9. A playback apparatus according to claim 7, characterized in that said second variation have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

10. A playback apparatus according to claim 9, characterized in that said predetermined relationship is a zero crossing.

11. A system as claimed in claim 1, characterized in that a predetermined variation pattern within said second variation allows sampling of said second variations at twice the frequency of said second variations.

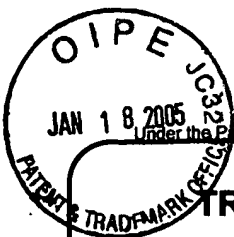
12. A system as claimed in claim 1, characterized in that said second variations have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

13. A system as claimed in claim 12, characterized in that predetermined relationship is a zero crossing.

14. A record carrier according to claim 4, characterized in that a predetermined variation pattern in the second variations allows sampling of said second variations at twice the frequency of said second variations.

15. A record carrier according to claim 4, characterized in that said second variation have a first and a second phase such that a predetermined relationship between said first and said second phase coincides to a start of frame.

16. A record carrier according to claim 15, characterized in that said predetermined relationship is a zero crossing.



PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

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Total Number of Pages in This Submission

24

Application Number

09/897,331

Filing Date

07/02/2001

First Named Inventor

Job Cornelis Oostvenn

Art Unit

2655

Examiner Name

Jorge L C. Ortiz

Attorney Docket Number

NL000409

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	LEIMBACH ASSOCIATES		
Signature			
Printed name	James D. Leimbach		
Date	January 15, 2005	Reg. No.	34,374

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